

careful study of the applied references and the associated rejections, Applicants conclude that the applied references do not teach or suggest the invention claimed in the instant application.

It appears that the Office Action agrees to some extent with Applicants' arguments as filed on July 7, 2003 by its statement that "Fuke does not specifically say that his metallic plate is attached to a heat radiating side of the diaphragm for radiating heat generated in the voice coil, voice coil bobbin and diaphragm."

However, the Office Action then states that the newly-applied Okazaki reference "discloses the use of a speaker comprising a voice coil bobbin (13), a voice coil (9) wound around the voice coil bobbin, a diaphragm (8) supported by the voice coil bobbin; and a metallic plate (14) that is a heat radiation member (claim 14) attached to a heat radiating side of the diaphragm for radiating heat generated in the voice coil, voice coil bobbin and diaphragm (see column 2, lines 8-20)." The Office Action thus goes on to state that it "would have been obvious ... to modify [the] diaphragm as disclosed by Fuke and the position as disclosed by Okazaki in order to provide a light weight voice coil." Applicants note in this regard that the instant invention is not concerned with providing a lighter weight voice coil.

Applicants respectfully traverse this combination rejection for at least the following reasons. The Office Action's interpretation of Okazaki is respectfully traversed at least because the Office Action refers to reference numeral 14 and cites to col. 2, lines 8-20 of Okazaki as meeting the claimed limitation of a "heat radiation member attached to a heat radiating side of the diaphragm for radiating heat generated in the voice coil, voice coil bobbin and diaphragm."

Applicants respectfully submit that reference numeral 14 of Okazaki is disclosed as being "kraft paper" that is wound around an outer periphery of the voice coil 9 where a coil 15 is not wound. Okazaki explains that this "kraft paper" 14 is provided for reinforcement and insulation.

As seen in Fig. 3 of Okazaki, the bobbin 13 is obtained by winding the voice coil 9 on a portion of the bobbin where the kraft paper 14 is not wound. As a result, the coil 15 is directly wound on the metal foil constituting the bobbin 13, so that the metal foil (i.e., the bobbin) functions to radiate the heat generated in the coil 15, thereby preventing the elevation of temperature. See col. 2, lines 8-20 of Okazaki.

Accordingly, the portion of Okazaki cited by the Office Action in this regard explains that the kraft paper 14 is provided for insulation and that it is the metal foil constituting the bobbin 13 (i.e., the bobbin itself) that radiates the heat generated in the coil 15, not the kraft paper 14, which the Office Action refers to as a “metal plate.”

As a result, it is respectfully submitted that Okazaki does not teach or suggest to any extent that the kraft paper 14, or any other portion of the loudspeaker arrangement of Okazaki, is a “heat radiation member for radiating heat generated in the voice coil, voice coil bobbin and diaphragm,” as recited in independent claims 6 and 13.

Moreover, Applicants further submit that the metallic bobbin 13 of Okazaki has a higher heat radiation efficiency than the kraft paper 14 of Okazaki. If the kraft paper 14 is not wound, the heat radiation increases. If the kraft paper 14 is wound, the heat radiation efficiency will drop.

While col. 2, lines 8-20 of Okazaki teach that the voice coil bobbin 13 functions to radiate the heat generated in the coil 15, thereby preventing the elevation of temperature, there is no teaching that the insulative kraft paper 14 performs such a function, as asserted by the Office Action. Moreover, independent claims 6 and 13 of the instant application recite a “heat radiation member” as a separately claimed element from the “voice coil bobbin” “attached to a heat radiating side of the diaphragm” (claim 6) and “attached to a main acoustic side of the

diaphragm” (claim 13) for radiating “heat generated in the voice coil, voice coil bobbin and diaphragm.”

Even further, Applicants respectfully submit that claim 13 goes on to recite that the heat radiation member is “adjacent to, and extending radially from, the voice coil bobbin in a direction towards the edge portion.” Such arrangements are neither shown nor suggested by Fuke and Okazaki, whether taken separately or in combination.

Accordingly, Applicants respectfully assert that the rejections under 35 U.S.C. § 103(a) should be withdrawn because none of the applied references, whether taken singly or combined, teach or suggest each feature of independent claims 6 and 13. MPEP § 2143.03 instructs that “[t]o establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 409 F.2d 981, 180 USPQ 580 (CCPA 1974).”

With regard to the rejections of dependent claims 7-12, and 14-16 under 35 U.S.C. § 103(a), Applicants respectfully submit that these dependent claims are allowable for at least the same reasons as independent claims 6 and 13, respectively, and that Inoue fails to cure the deficiencies of Fuke and Okazaki.

CONCLUSION

In view of the foregoing remarks, Applicants respectfully request reconsideration of this application, withdrawal of all rejections, and the timely allowance of all pending claims 6-16.


Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants’ undersigned representative to expedite the prosecution.

EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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